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THE EFFECTIVENESS OF USING BRAINSTORMING TECHNIQUE IN WRITING PARAGRAPH ACROSS THE DIFFERENT LEVEL OF ACHIEVEMENT AT THE SECOND SEMESTER ENGLISH DEPARTMENT STUDENTS OF PALANGKA RAYA STATE ISLAMIC INSTITUTE

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Abstract: The study is aimed at investigating the effectiveness of using brainstorming clustering technique on the quality of composition written by experimental group of bright and low students. The study belongs to an experimental research using factorial design. To collect the data, the researcher employs counterbalanced procedure. Here, the single group of the subjects are divided into two half that are called two treatment groups. The two half of students get treatment but the treatment is in different order: brainstorming technique versus non- brainstorming technique. There is only one instrument: writing test. The data, then, the data are analyzed by one way Analysis of Variance (ANOVA). The study revealed that at the 5% and 1% of significant level, there was a very statistically significant difference on students' writing achievement both for the bright and poor students between the students who wrote a time order paragraph using brainstorming technique and those who wrote a time order paragraph without using brainstorming technique.

Keywords: *effectiveness, brainstorming, writing paragraph.*

1. Introduction

Brainstorming strategy is one of the most important strategies in provoking creativity and solving problems in the educational, commercial, industrial and political fields. Brainstorming strategy was introduced by Alex Osborn, an American advertisement company manager in 1938 as results of his inconvenience of traditional business meetings. Brainstorming means the use of brain to the active problem solving and the brainstorming session aims to develop creative solutions to problems (al-Khatib, 2012:29). Brainstorming is a method students can use to generate ideas for writing a paper. In the process of brainstorming we should suspend any concerns about staying organized. The goal is to pour our thoughts onto paper without worrying about whether they make sense or how they fit together (Fleming, 2014).

Concerning with brainstorming studies, there have been a number of studies. One of them, a study conducted by Fawzi, Mohammad, and Hussein (2013) found that both types of brainstorming were motivating to students with more preference given to guide

brainstorming. Another study was conducted by al-khatib (2013). The findings of the study showed that there are statistical significant differences at the level of ($\alpha = 0.05$) between the experimental group and the control group in the total score and the sub scores of the creative thinking in the favor of the experimental group indicating the effectiveness of using brainstorming strategy in developing creative thinking skills. Due to the facts above, it motivates the researcher to conduct an experiment study entitled "The Effectiveness of Brainstorming Technique in Writing Paragraph across the Different Level of Achievement at the Second Semester English Department Students of Palangka Raya State Islamic College 2014/2015 Academic Years."

1.1 Statement of the Problems

Based on the background of the study, the research problems are as follows:

a. Do the bright students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught wihout using it?
b. Do the poor students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught without using it?
c. Do the bright and poor students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught without using it?

1.2 Hypotheses

Hypothesis is a formal statement of what the researcher expects to find when he/she conducts experiment (Jenifer, 2010: 394). The alternative hypotheses of the study are formulated, as follows:

1. The bright students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught without using it.
2. The poor students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught without using it.
3. The bright and poor students who are taught using brainstorming technique gain better achievement in writing paragraph than those who are taught without using it.

The null hypotheses of the study are:

1. The bright students who are taught using brainstorming technique do not gain better achievement in writing paragraph than those who are taught without using it.
2. The poor students who are taught using brainstorming technique do not gain better achievement in writing paragraph than those who are taught without using it.
3. The bright and poor students who are taught using brainstorming technique do not gain better achievement in writing paragraph than those who are taught without using it.

1.3 Variable

In the present study, there are four variables: two independent variables and two dependent variables. The independent variables are: (1) writing paragraph using brainstorming technique and (2) writing paragraph without using brainstorming technique. Meanwhile, the dependent variables are (1) scores of the bright students' writing test and (2) scores of the poor students' writing test

1.4 Assumption

Assumption is any important 'fact' presumed to be true but not actually verified (Gay, 1981: 429). The study is based on the assumption that there will be a significant difference on the students' writing score between those who are taught using brainstorming technique and those who are taught without using it at the second semester English Department students of Palangka Raya State Islamic College 2014/2015 academic years, for a number of reasons. First, brainstorming helps students develop and improve fluency with thinking. Second, brainstorming allows students to discover new ideas and relationships between concepts. Third, brainstorming gets the mind going to generate and organize thought processes, new ideas and information.

1.5 Significance of the Study

This study is aimed at measuring whether the bright and poor students who are taught using brainstorming technique gain better achievement or not, in writing paragraph, than those who are taught without using it at the second semester English Department students of Palangka Raya State Islamic College 2014/2015 academic years. This study has practical and theoretical significance. Practically, the result of this study is expected to give significant contribution to the English writing teachers. Moreover, the result of the study is expected to provide empirical data about the students' progress in writing using brainstorming technique.

In addition, the study can also help the students to solve their problems in generating ideas when they are writing time-order paragraph. Theoretically, it is expected that the results of the study can give contribution to body of knowledge in English education; that is, to support the theory of brainstorming technique in prewriting strategy.

1.6 Limitation of the Study

The study belongs to experimental study using counterbalanced design. This study is restricted to two focuses: using brinstorming technique and without using brinstorming technique to write composition for two different subjects: the bright and poor students. This study limits to using brainsorming technique to write a paragraph. Using brinstorming technique to write a paragraph is one of the four prewriting strategies in writing process. The study is conducted at the Class D of second semester English department students of Palangka Raya State Islamic College of 2014/ 2015 academic year. The number of the subjects of the study is 28 students.

2. Review of Related Literature

2.1 Related Studies

Some studies have been conducted on brainstorming technique in writing. Phimmasenh (2011) found that based on the result of post-test, there was significant improvement between the students' score in pre-test and post-test. brainstorming technique is able to improve students' writing ability in descriptive text. Therefore, it is recommended that the teacher should apply brainstorming technique in teaching writing. Suryani (2012) found that the use of brainstorming technique can improve the students' writing ability at the tenth grade students of SMA Muhammadiyah Kudus in academic year 2011/2012, especially in X-F class. Astuti and Kumalarini (2013) found that roundtable brainstorming can improve the writing ability of grade ten students of SMAN 12 Surabaya in Writing Descriptive Texts. It can improve all the components of the students' composition except "mechanics". Noor, (2013) found that brainstorming technique offers a good technique to make the students practice in writing. Fawzi, Mohammad, and Hussein (2013) showed that both types of brainstorming were motivating to students with more preference given to guide brainstorming. Al-khatib (2013) found that there are statistical significant differences at the

level of ($\alpha = 0.05$) between the experimental group and the control group in the total score and the sub scores of the creative thinking in the favor of the experimental group indicating the effectiveness of using brainstorming strategy in developing creative thinking skills.

Maghsoudi and Haririan (2013) revealed that the instruction of brainstorm strategy had a positive effect on EFL learners' writing achievements. It also made them more active, which might make them responsible for their own learning and likely to learn better.

Rohmah (2013) found that RRB (Round Robin Brainstorming) is more effective to teach speaking. It could be seen from the students' attitude during the implementation of RRB. The students in Experimental Group were more active, comfortable, and felt enthusiastic during teaching learning process. Beside that the result of the test also supports the differences of the groups. The differences could be seen from the students mean score from post test. The mean in Experiment Group is 7.860 and in Control Group is 5.597. It is can be concluded that RRB is more effective to teach speaking.

Those studies above investigate brainstorming technique in different area and perspective. Moreover, this study supports the above findings. This study focuses on using brinstorming technique and without using brinstorming technique to write composition for two different subjects: the bright and poor students. This study investigates whether there is a significant difference or not on the bright and poor students' writing score between those who are taught using brainstorming technique and those eho are taught without using it in writing time-order paragraph at the second semester English Department students of Palangka Raya State Islamic College 2014/2015 academic years.

2.2 Brainstorming

Brainstorming also called listing, is a good technique to generate ideas and to get information that a writer needs. It is a sudden insight or connection. In brainstorming, students call out as many associations as possible while the teacher jots them down (Gebhard, 2000: 227).

In the present study, the researcher tries to apply brainstorming technique in prewriting stage during the writing process, because it is what the researcher investigates. Here, the students are assigned to practice brainstorming technique in prewriting stage during the writing process, when they are starting to write. Hopefully, this experience can lead

students to have an assumption that writing is a complex skill, which should be gained from a set of process.

2.3 Brainstorming Technique as a Prewriting Strategy

Brainstorming is techniques where we write down various ideas as they come to mind. Brainstorming is also a way to associate ideas and stimulate thinking. It permits writers to approach a topic with an open mind. To brainstorm, the writer can ask others to recall for information of particular topic in order to give the writer plenty of ideas about the topic. Based on the topic, the writers call out as many associations as possible while they jot them down (Smalley, at al: 2001; 4). In this case, brainstorming is a tool used by teams for creative exploration of options in an environment free of criticism. It is a technique used to get a fulsome rush of new ideas on a used topic. It is a creative thinking exercise. It's the classic way of quickly grabbing lists of possibilities. It's use widely in all types of businesses. It is very easy to do and is extremely effective. Everybody is involved. In the beginning every contribution is accepted without exception, and no idea is excluded, no matter how 'out there' it may be. In short, it is a terrific technique.

Historically, brainstorming is an idea-generating technique pioneered by Alex Osborn. Brainstorming came to public attention in a book – *Your Creative Power* – written in the 1940s by Alex Osborn, a partner in the advertising agency. Since then it has become one of the most popular forms of idea generation, for both individuals and groups, in business and in everyday life.

2.4 Brainstorming process in writing

There five steps of brainstorming process in writing, as follows:

a. brainstorm list. In this step, the writer quickly makes a list of every word, every phrase, every ideas that comes into the writer's mind about the topic. Write every thought down. Don't worry if it is correct or not. The goal is to list as much as possible as quickly as possible (Hoque, 1996: 32).
b. Edit brainstorming list. The second step is to edit the brainstorming list. In this step, the writer includes in the final paragraph and what he/she want to omit by combining ideas

that belong together, crossing out words that repeat the same ideas, and crossing out that are not directly related to the main ideas.

c. Organize the list. The third step is to put the list in order. Here, the steps should be in time order. What happens first? Second? Third? Last? Notice that each step is given a capital letter (A, B, C, etc.).
d. Making an outline. The fourth step is to add title and give a topic sentence. Here, the title is centered at the top. The topic sentence is placed below the title and the five steps listed under the topic sentence and have capital letters (A, B, C, and so on.
e. Writing the paragraph. The last step is to write the paragraph based on the outline made.

2.5 The Benefits of Brainstorming Technique

Brainstorming is designed to facilitate lateral thinking. This is based on the premise that the human brain is a pattern recognition machine. Humans interact with their environment in patterned ways and it can sometimes be difficult to move beyond these patterns and develop creative solutions to problems. A brainstorming is a useful tool to generate ideas or find solutions to a problem. Moreover, brainstorming in the classroom motivates students to freely express their ideas and thoughts on a subject. As there are no wrong and right answers, the sessions provide students with a platform where they can voice their thoughts without fear of failure. The sessions give the class a chance to tap into their previous knowledge and form connections between the current topic and what they have already learned. It also encourages them to listen and consider others' ideas, thereby showing respect for their fellow classmates.

Dealing with brainstorming technique, Gebhard (2000; 226) stated:

> Once popular activity is called 'brainstorming,' in which a topic is introduced by the teacher or students, after which students call out ideas associated with the topic while the teacher (or a student or two) write the ideas on the board. Although there is no right or wrong association in this activity, some EFL/ESL students will shy away from calling out their ideas. As such, some teachers have students brainstorm first in small groups, then as a whole class.

Brainstorming also creates an atmosphere of freedom which is maintained by four basic rules: no evaluation or criticism, encourage *wild* ideas, build on the ideas of others, and strive for quantity. Brainstorming has some other benefits. Brainstorming activities can help more advanced students produce ideas for writing, projects, and professional presentations. It can also be greatly helpful in developing solutions for problems in professional settings. In

addition, brainstorming is one of the most effective pre-writing techniques we can use. It is a key part to the creative process in writing. Brainstorming is easy because there are no rules. Moreover, brainstorming brings new ideas on how to tackle a particular problem – the freethinking atmosphere encourages creativity, even imperfectly developed thoughts may push the thinking of other participants. Brainstorming also helps to reduce conflicts – it helps participants to see other points of view and possibly change their perspective on problems. All participants have equal status and an equal opportunity to participate.

Dealing with the benefits of brainstorming, Friedlander (2013) states:

> Brainstorming is rapid, uncritical free-association on paper, writing columns of single words or very short phrases. The idea is to get our brain spinning or freewheeling, just dumping stuff out without any concern about its relevance, appropriateness, usefulness or logic. Because we typically seek to control what we write, gaining the relaxation to brainstorm in this way sometimes takes a little practice. The main advantages of brainstorming are that it can begin instantly, move quickly, and often produce unexpected ideas or angles. With a little practice, though, brainstorming becomes a rapid, low-stress technique, so an unproductive session is not very costly in time or effort.

2.6 Time-Order paragraph

A time-order paragraph is a paragraph in which the ideas are put in order by time(Hoque, 1996: 33). When we write about an event, we use time order to tell about it. We write first this happened, next that happened and then sometimes else happened. When we write instructions, we use time order. We devide our instructions into a series of steps and list the steps in order by time. In time-order paragraph, we use time-order transition signals. The tell the reader what to do first, second, third, fourth, and so on. It is important to use transition signals when we write instructions to make the order of the steps clear. Time-order transition signals include the words: first, second, third, fourth, next, after that, then, finally, and so on. Here is a model of time-order paragraph.

How to Clean Your House after a Party

> There are some tips to clean the house after finishing a party. First of all, change into rough clothes in order to move easily. Second, take away all the decorations, and keep back some of them and throw away some of them. Next, stop the music and put CDs in order. Then, throw away all leftovers with eating them a little and keep some of them which can still be eaten. Next, remove all the dishes from the table and bring them to the sink in the kitchen. Then, pick up

noticeable trash which is lying about in the living room and throw them away to the garbage can. Since some part of the floor is wetted by spilling some drink, please wipe the floor with a floor cloth. After that, clean the floor for using a vacuum to clean dust. Then, bring the garbage bag to the dumping ground. Lastly, wash the dishes and go to bed. (adopted from Matsubara, 2008.

3. Research Methods

3.1 Research Design

The design of the study is an experimental design using counterbalance procedure. Experimental Design is a plan for an experiment that specifies what independent variables will be applied, the number of levels of each, how subjects are assigned to groups, and the dependent variable (Ary, 2010: 641). Counterbalanced procedure is an experimental design in which the effects of order are controlled by having all groups receive all treatments but in a different order(Ary, 2010: 639). In the present study, the single group of the subjects are divided into two half that are called two treatment groups. The two half of students get treatment but the treatment is in different order: brainstorming technique versus non-brainstorming technique for two different levels: the bright and poor students. The different order of treatments functions to control invalidity.

It is an order in which treatment condition experienced are varied across subjects so that each treatment is experienced in each ordinal position by different sets of subjects. In this sense, the same student takes two different measures in varied order. The data are taken from the same student on different tasks at a period of time.

The experimental study with counterbalance procedure divides the subjects into two half group. The aim is to measure the ability of the subjects in the two-half groups to write a time order paragraph using two different prewriting strategies in the process writing, that is, using brainstorming technique and without using brainstorming technique. Both composition prewriting strategies, using and without using brainstorming technique are categorized as the independent variables indicating the strategy factor. Meanwhile, the writing performance of the two levels: bright and poor students are categorized as the dependent variable. Afterwards, the results of the two writing tests of the same students using brainstorming technique and without using brainstorming technique are compared to investigate the effects of the manipulation of the independent variables on the dependent variables as well as to examine the interaction between the levels of the four experimental variables.

In the study, there are four variables: two independent variables and two dependent variables. The independent variables are: (1) writing paragraph using brainstorming technique and (2) writing paragraph without using brainstorming technique. Meanwhile, the dependent variables are (1) scores of the bright students' writing test and (2) scores of the poor students' writing test.

3.2 Population and Sample

Population is the group to which a researcher would like the results of a study to be able to generalize (Gay, 1981: 101). In the present study, the population of the study is all the D class students of the second semester English department of Palangka Raya State Islamic College of 2014/ 2015 academic year. The number of the population is 28 students. The population is the students who are taking Writing I course of the second semester. Since the population is less than 100, the researcher takes all population as the sample of the study. Therefore, the study is called population research. The number of the subjects is 28 students.

3.3 Research Instrument and Data Collection Procedures

The study is aimed at investigating the effectiveness of using brainstorming clustering technique on the quality of composition written by experimental group of students. To collect the data, the researcher employs counterbalanced procedure. In the procedure, the single group of the subjects are divided into two half that are called two treatment groups. The two half of students get treatment but the treatment is in different order: brainstorming technique versus non- brainstorming technique. The different order of treatments functioned to control invalidity. There is only one instrument developed in conducting the study: writing test.

3.4 Data Analysis Porcedures

The data of the study are the students' writing scores. In this case, the data are in form of quantitative data. The data are analyzed by one way Analysis of Variance (ANOVA). It is an inferential statistical test used for experimental designs with more than one independent variable or more than two levels of an independent variable. ANOVA test is applied to investigate the effect between the bright students' writing score who use brainstorming

technique and those who do not use brainstorming technique; and the poor students' writing score who use brainstorming technique and those who do not use brainstorming technique. In this design the subjects are exposed to a combination of treatments. The treatment combination is shown in Table 1.

Table 1. Treatment Combination

Subjects	Prewriting Strategy	
	A1	A2
B1		
B2		

Notes:

A1 refers to writing time- order paragraph using brainstorming technique.

A2 refers to writing time- order paragraph without using brainstorming technique
B1 the bright student group
B2 the poor student group

The focus of the study is to compare writing scores of the same subjects. The scores of two compositions of the same individual (using brainstorming technique and without using brainstorming technique) are compared. In this sense, score A1B1 will be compared to A2B1, and score A1B2 will be compared to A2B2. In conclusion, the study has two independent variables: prewriting strategy (factor A) and two dependent variables: the bright students' performance of paragraph writing, and the poor students' performance of paragraph writing (factor B). Factor A has two levels: writing paragraph using brainstorming technique and without using brainstorming technique. Factor B has also two levels: the bright students' performance of paragraph writing, and the poor students' performance of paragraph writing. The subjects of the study are 25 students, consisting of 12 bright students and 13 poor students. Each student has to write two pairs of paragraph: using brainstorming technique and without using brainstorming technique

The study has three research problems: (1) whether there is a significant difference between writing using brainstorming technique and without using it on the bright students' writing achievement or not; (2) whether there is a significant difference between writing using brainstorming technique and without using it on the poor students' writing achievement or

not; and (3) whether there is a significant difference between writing using brainstorming technique and without using it on the bright and poor students' writing achievement or not.

To answer the three research problems, the researcher analyzes the data using Analysis of Variance (ANOVA) to investigate the effect between the bright students' writing score who use brainstorming technique and those who do not use it; the poor students' writing score who use brainstorming technique and those who do not use it; and the bright and poor students' writing score who use brainstorming technique and those who do not use it.

To sum up, the steps in collecting, analyzing, and hypothesis testing can be described below. In the earlier step, the subjects are divided into the bright and poor students based on the previous writing test. Then, they select a topic for a time- order paragraph. They are assigned to write a time- order paragraph, using brainstorming technique and without using it. Then, the writing product both using brainstorming technique and without using it is scored by two raters. Then, the normality of the data are tested using Kolmogorov- Smirnov Test; and the homogenity of variance are tested using levene statistics. Those tests are required as the assumption of ANOVA tests. To analyze the data of writing scores, a one way ANOVA test employed. Then, the research hypothesis will be tested to answer the research problems. Lastly, a discussion on the results is made to clarify the findings.

4. Research Findings

4.1 Data Presentation

After conducting all tests, the comparison of scores were made, as in Table 2.

Table 2. The Comparison of the Students' Scores between Using Brainstorming Technique and Without Using Brainstorming Technique of the Bright and Poor Students.

Subject		Writing score	
		Using brainstorming	Without Using brainstorming
The bright students	ANT	9	8
	LPS	7	5
	SYM	8	7
	BHR	7	6
	DMW	9	6
	AZR	8	5
	NRD	8	7
	SRF	7	5
	PRS	6	5
	SMW	8	6
	KRW	9	7

	NAP	8	7
	MRF	6	5
	ESP	7	6
	Mean score	**7.64**	**6.07**
The poor students	DWR	6	5
	YSP	6	3
	AFS	7	6
	UMJ	6	5
	NRF	8	7
	RAA	5	5
	STP	7	5
	RKU	5	4
	STH	7	5
	MRD	7	6
	BAF	8	6
	FDF	7	5
	YSS	5	4
	RRM	6	4
	Mean score	**6.42**	**5.00**

Based on the data above, it was said the mean score the bright students' writing product using brainstorming technique was 7.64; the mean score the bright students' writing product without using brainstorming technique was 6.07; the mean score the poor students' writing product using brainstorming technique was 6.42; the mean score the poor students' writing product using brainstorming technique was 5.00.

4.2 Testing Assumption for ANOVA test

To answer the research problems, a one way ANOVA was applied. Before testing the statistical hypothesis, the assumption test for a one way ANOVA. There were two assumptions to be tested: normality and homogeneity of variance.

4.3 Testing the normality

To test the normality of data, the Kolmogorov- Smirnov test was applied. The Kolmogorov- Smirnov test was used to test whether the data were in normally distributed or not. If the the significant value for Kolmogorov- Smirnov test was greater than 0.050, the data were normally distributed. On the contrary, if the the significant value for Kolmogorov-Smirnov test was greater than 0.050, the data were not normally distributed. Based on the out put of Kolmogorov- Smirnov test, it was found that the significant value (p- value) for each

category was 0.096, 0.76, 0.85, and 0.81. They were higher than 0.050. If the significant value was greater than 0.050, it indicated that the data were in the normal distribution.

4.4 Testing the homogeneity of variance

The next step is to test homogeneity of variance by applying Levene' s test. It tested whether the variances in scores was the same for each of the four groups. If the the significant value for Levene's test was greater than 0.050, the assumption of homogeneity of variance not was violated. On the contrary, if the the significant value for Levene's test was smaller than 0.050, the assumption of homogeneity of variance was violated. Based on output of homogeneity of variance of Levene' s test, it was found that the Sig was 0.917. Since the significant value was greater than 0.050, it indicated that the data were homogenous. It meant that the assumption of homogeneity of variance not was violated. Since, the data were in the normal distribution and homogenous, the statistical hypothesis could be tested using a one way ANOVA with Post- hoc test.

4.5 Testing Statistical Hypothesis

To test the statistical hypothesis, there were some steps to be done. First, both data were inserted in the SPSS program on a one way ANOVA test, since there were four variables being compared. Then, the significant level of F empiric was determined. The result of calculation or F value could be seen from the output. Next, to determine the F empiric, the F value was compared with the critical value or F table at 1% and 5% significant level. If the F value was smaller than F table, the null hypothesis (ho) could not be rejected and the alternative hypothesis (ha) was rejected. On the contrary, if the F value was higher than F table, the null hypothesis (ho) was rejected and the alternative hypothesis (ha) was accepted. Based on the descriptive output, it could be seen that the mean score the bright students' writing product using brainstorming technique was 7.64; the mean score the bright students' writing product without using brainstorming technique was 6.07; the mean score the poor students' writing product using brainstorming technique was 6.42; the mean score the poor students' writing product using brainstorming technique was 5.00. The total mean of the score was 6.29.

4.6 The out put from ANOVA test

The ANOVA table gave both between groups and whithin groups, sums of squares, degrees of freedom, and the significant value. If the the significant value for ANOVA test was less than or equal to 0.050, there was a significant difference somewhere among the mean scores on the dependant variables for the four groups. On the contrary, if the the significant value for ANOVA test was greater than 0.050, there were no significant difference somewhere among the mean scores on the dependant variables for the four groups. The Anova Table was explained in Table 3.

Table 3. The Anova Table of the Students' Writing Score.

ANOVA

writing score

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	49.857	3	16.619	16.132	.000
Within Groups	53.571	52	1.030		
Total	103.429	55			

Based on the ANOVA output, it could be seen that the F value was 16.132 together with Sig. 0.000. Since the significant value (0.000) was less than 0.050, it indicated that there was a significant difference somewhere among the mean scores on the dependant variables for the four groups. It meant that brainstorming technique gave significant effect on the writing scores for both the bright and poor students.

4.7 The out put from Multiple Comparisons

The Post- hoc test explained where the difference among the group occured. In the column labelled Mean Difference, there were asterisks (*) next to the values listed. If there was an asterisk, it meant that the two groups being compared were significantly different from one another at the significant value less than 0.050 level. On the contrary, if there was not an asterisk, it meant that the two groups being compared were not significantly different from one another. The Multiple Comparisons Table was explained in Table 4.

Table 4 The Multiple Comparisons Table of the Students' Writing Score.

Multiple Comparisons

Dependent Variable:brainstorming

	(I) writing score	(J) writing score	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	1	2	1.57143*	.38363	.001	.5532	2.5896
		3	1.21429*	.38363	.013	.1961	2.2325
		4	2.64286*	.38363	.000	1.6247	3.6611
	2	1	-1.57143*	.38363	.001	-2.5896	-.5532
		3	-.35714	.38363	.788	-1.3753	.6611
		4	1.07143*	.38363	.036	.0532	2.0896
	3	1	-1.21429*	.38363	.013	-2.2325	-.1961
		2	.35714	.38363	.788	-.6611	1.3753
		4	1.42857*	.38363	.003	.4104	2.4468
	4	1	-2.64286*	.38363	.000	-3.6611	-1.6247
		2	-1.07143*	.38363	.036	-2.0896	-.0532
		3	-1.42857*	.38363	.003	-2.4468	-.4104

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Based on the out put of Tukey Pos hoc test, it could be concluded that:

1. There was a significant difference between writing using brainstorming technique and without using brainstorming technique on the bright students' writing achievement. The mean difference was 1.571 and the significant value was 0.001.
2. There was a significant difference between writing using brainstorming technique and without using brainstorming technique on the poor students' writing achievement. The mean difference was 1.214 and the significant value was 0.013.
3. There was a significant difference between writing using brainstorming technique and without using brainstorming technique on the bright and poor students' writing achievement. The mean difference was 2.642 and the significant value was 0.000.

A one way ANOVA test was conducted to explore the effect of bainstorming technique toward students' writing on across the different level of achievement. The subjects were divided into two groups according to the level of achievement: the bright and poor students (the score more than 6.00 belonged to bright and less than 6.00 belonged to poor students). Based on the out put of a one way ANOVA test, it was found that there was a

statistically significant difference at the significant value (p- value) was less than 0.05 level in writing scores for the two groups of students (F=16.132, p= 0.00). Post hoc comparison using the Tukey HSD test indicated that the mean score for group 1 (Mean=7.64, standard deviation= 1.008) was statistically different from group 2 (Mean=6.07, standard deviation= 0.997); group 3 (Mean=6.42, standard deviation= 1.016); group 4 (Mean=5.00, standard deviation= 1.037) and the total mean was 6.28, and standard deviation was 1.371. Therefore, it was stated that brainstorming technique gave a statistically significant difference on students' writing achievement both for the bright and poor students.

Moreover, based on the F value of the compare means in ANOVA Table, it was found that the F value was 16.132. Based on the outcomes, it was also found that the df (Degree of freedom) of the distribution observed was 56-4= 52. Based on the Table of F value, if df was 52, the 5% of significant level of F value was at 4.030 and the 1% of significant level of F value was at 3.180 (Table of critical value for the F distribution for use with ANOVA). It could be seen that the empiric F value at 16.132 was greater than the F value theoretic. Therefore, F table (5%=4.030) < F value (16.132) > F table ((1%= 3.180). It meant that the F value empiric at 16.132 was greater than F theoretic at the 5% and 1% of significant level.

4.8 Interpretation of the Results

Based on the results, it could be concluded that at the 5% and 1% of significant level, there was a very statistically significant difference on students' writing achievement both for the bright and poor students between the students who wrote a time order paragraph using brainstorming technique and those who wrote a time order paragraph without using brainstorming technique. This meant that Ha stating that there was a significant difference between the students who wrote a time order paragraph using brainstorming technique and those who wrote a time order paragraph without using brainstorming technique was accepted. On the contrary, Ho stating that there were no significant difference between the students who wrote a time order paragraph using brainstorming technique and those who wrote a time order paragraph without using brainstorming technique was rejected. It meant that using brainstorming technique gave facilitative effect on the students' paragraph writing performance. To sum up, the means differed significantly at 1% and 5% significant level for both groups.

5. Conclusion

Based on the results, it could be concluded that at the 5% and 1% of significant level, there was a very statistically significant difference on students' writing achievement both for the bright and poor students between the students who wrote a time order paragraph using brainstorming technique and those who wrote a time order paragraph without using brainstorming technique. Therefore, it was recommended that the students use brainstorming technique in prewriting strategy before starting to write. It could help them solve their problems in generating ideas when they were writing a time- order paragraph. Second, it was recommended that the students follow the steps to make brainstorming as proposed by Ann Hoque. First, make a brainstorm list to get ideas. Second, edit the brainstorm list. Third, organize the list. Fourth, make an outline, add a title and a topic sentence. Fifth, write the paragraph based on the outline made. It was also suggested that the teachers give emphasis on how students developed their ideas and organized them effectively. To create this, the teachers were recommended to use brainstorming technique when teaching paragraph writing. Since the study was an experiment study, it was advisable that future researchers follow up the research findings by conducting other experiment studies on teaching paragraph writing. It was important because there were still a number of problems in writing classes, especially in teaching prewriting strategies in paragraph writing.

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